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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,215	12/21/2001	Ryoma Oami	Q67860	9094

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EXAMINER

VO, TUNG T

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 07/16/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,215

Applicant(s)

OAMI, RYOMA

Examiner

Tung T. Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/21/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 12/21/01 has been considered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 6, recited "a storing means" is not described in any figures of the specification of the present invention.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Ryoo (US 5,990, 957).

Re claims 1-2, 5-6, and 19-20, Ryoo discloses a moving picture encoding system (fig. 1) for encoding moving picture sequences with respect to each object, comprising:

a coding means (15 and 11 of fig. 1) for encoding object picture data consisting of time series sequences of video object planes (VOPs) (11 of fig. 1), each of which is a picture image of the object at a point of time, and shape information data indicating the shape of the object in each VOP while conducting bit rate control so that the number of generated bits for each VOP meets a target bit number (15 of fig. 1), and outputting coding information including a quantization parameter used in encoding and the generated bit number along with obtained bit streams (col. 3, line 55-col. 4, line 32);

an area calculating means (21 and 22 of fig. 2) for calculating the area of the object in each VOP based on the shape information data, and outputting the result as area data (col. 5, line 44-col. 5, line 43);

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a predictive area calculating parameter extracting means (24 and 25 of fig. 2) for obtaining a function that indicates temporal variations in the area of the object based on the history of the area data (25 of fig. 2), and outputting a parameter specifying the function or a predictive value of the area obtained by the function (24 of fig. 2) as a predictive area calculating parameter (col.6, line 59-col. 9, line 5);

a bit number model parameter calculating means (26, 27 and 29 of fig. 2) for calculating a parameter used in modeling the generated bit number per unit area of the object based on the coding information (col. 4, lines 59-67), the generated bit number and the area data, and outputting the result as a bit number model parameter (27 of fig. 2, see col. 1, lines 1-3, and 8-14);

a predictive bit number calculating parameter extracting means (28 of fig. 2) for obtaining a function that indicates temporal variations in the bit number model parameter based on the history of the bit number model parameter, and outputting a parameter specifying the function or a predictive value of the bit number model parameter obtained by the function as a predictive bit number calculating parameter (col. 9, lines 27-67); and

a target bit number calculating means (29-31 of fig. 2) which performs a series of processes:

calculating an un-coded VOP allocatable bit number (31 of fig. 2) that is the total number of allocatable bits for uncoded VOPs in a certain period of time based on allocatable bit number information indicating the total number of allocatable bits for the VOPs in the certain period of time and the number of generated bits for the encoded VOPs in the certain period of time (col. 10, line 66-col. 11, line 44),

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estimating the number of generated bits for the uncoded VOPs based on the predictive area calculating parameter and the predictive bit number calculating parameter, allocating the uncoded VOP allocatable bit number (col. 11, lines 5-44), calculating a target bit number for the next VOP to be encoded (col. 10, lines 1-40), and outputting the target bit number; sequentially for each of VOPs in the certain period of time (29 and 32 of fig. 2).

a storing means (14 of fig. 1, note a VOP memory temporarily stores VOPs) for temporarily storing object picture data consisting of time series sequences of video object planes (VOPs), each of which is a picture image of the object at a point of time, and shape information data indicating the shape of the object in each VOP

Re claim 3, Ryoo further discloses wherein a moving picture sequence may includes a plurality of objects (fig. 5A and 5B).

Re claim 4, Ryoo further discloses wherein a moving picture sequence may include a plurality of objects (MPEG-4 standard, fig. 5A and 5B).

Re claims 7-10, Ryoo further discloses the bit number model parameter is a complexity index per unit area of the picture (col. 5, lines 1-3, note quantization matrix and complexity classifier 21 of fig. 2); and the target bit number calculating means calculates the target bit number based on a product of a predictive value of the complexity index and a predictive value of the area data (col. 10, lines 1-40).

Re claims 11-14, Ryoo further discloses the bit number model parameter calculating means (27 and 29 of fig. 2) calculates the bit number model parameter with respect to each VOP type; and the predictive bit number calculating parameter extracting means (28 of fig. 2)

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calculates the predictive bit number calculating parameter with respect to each VOP type (col. 9, lines 54-67).

Re claims 15-18, and 21 -22, Ryoo further discloses wherein a constant which can make a variation in quantization fineness among objects is used when the target bit number is calculated (col. 10, lines 41-50).

Re claims 23 and 24, Ryoo discloses the moving picture encoding system is carrying out the method for encoding moving picture sequences with respect to each object, so the encoding system is inherently have a program for conducting a computer to execute the encoding method.

6. Claims 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Peak (US 5,847,766).

Re claim 20, Peak disclose a moving picture encoding method (fig. 1) for encoding each frame of moving picture sequences while conducting bit rate control with respect to each section of the frame, comprising the steps of: calculating an uncoded frame allocatable bit number that is the total number of allocatable bits for uncoded frames in a certain period of time by subtracting the number of generated bits for the encoded frames in the certain period of time from the total number of allocatable bits for the frames in the certain period of time (10, 12, 18, 20 and 24 of fig. 1, see also col. 6, lines 40-53); estimating the number of generated bits for all the sections in the uncoded frames (EBframe 20 of fig. 1); calculating a target bit number (22 of fig. 1) for each section in the next frame to be encoded by allocating the uncoded frame allocatable bit number; and encoding the frame (fig. 1); sequentially for each of frames in the certain period of time.

Re claim 21, Peak discloses wherein a constant (24, and 26 of fig. 1) which can make a variation in quantization fineness among objects is used when the target bit number is calculated.

7. Claims 2, 4, 9, 16, 12, 6, 10, 14, 18, 20, 22, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Hui (US 6,654,417 B1) see (elements 201, 202, 211- 222 of figure 2).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Vetro et al. (US 6,650,705 B1) discloses a method for encoding and transcoding multiple video objects with variable temporal resolution.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung T. Vo whose telephone number is (703) 308-5874. The examiner can normally be reached on 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris. Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


TUNG T. VO
PATENT EXAMINER

T.VO

Tung T. Vo
Primary Examiner
Art Unit 2613